Amendment under 37 C.F.R. 1.111   Atty. Dkt. No.: 71470-0002

U.S. Patent Application No.: 10/781,665   Customer No.: 57362

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification at Page 3, line 34 as follows:

Also, a material having a low density and flexibility is used for the diaphragm edge of a speaker to improve sensitivity of sound. When the speaker is used for a long time, the shape of the diaphragm edge may be deformed by the weight of parts, in particular, the diaphragm, of the speaker. When the shape of the diaphragm edge is deformed so as not to be returned to the original shape, the sensitivity of sound is deteriorated.

Please amend the specification at Page 5, lines 14-16 as follows:

FIG. 4A-4E is a view illustrating various sections of a diaphragm edge which has an up-roll shape, a down-roll shape, an N-roll shape, an M-roll shape, and a W-roll shape;

Please amend the specification at Page 6, lines 17-29 as follows:

Preferred features that the diaphragm edge must have employs are described as follows.

The diaphragm generates a wave of condensation and rarefaction by pushing air around the diaphragm which becomes a sound wave. The quality of sound changes greatly according to the vibration type of the diaphragm. A performance required to needed from a speaker is to reproduce an input electric signal into sufficient sound. It is preferable that a speaker can reproduce sound in a wider frequency range from low-pitched sound to high sound and at a and constant sound pressure (a degree of flatness in the amplitude in the frequency characteristic

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curve). In view of the frequency characteristic curve, it is preferable that a scope from the

minimum resonance frequency (a lower limit of a low-pitched sound reproduction frequency) to

the high-pass resonance frequency (an actual upper limit of a high-pitched sound reproduction

frequency) is wide and the amplitude is large and the shape of the amplitude curve is flat and has

less uneven portions.

Please amend the specification at Page 7, lines 16-27 as follows:

The diaphragm edge 31 according to the present preferred embodiment of the present

invention can satisfy the above-described three requisites. The first and third conditions can be

~~med~~ met by using a material including silicon rubber for the diaphragm edge 31. The second

condition can be solved by forming an emboss on the front surface of the diaphragm edge 31, if

the diaphragm 32 vibrates back and forth (here, although the second adhesion portion 311b of the

diaphragm edge 31 is fixed to a frame of the speaker case, since the first adhesion portion 311a

of the diaphragm edge 31 is connected to the diaphragm 32, the diaphragm edge 31 is vibrated

by the vibration of the diaphragm 32), since air resistance is decreased by the emboss so that the

inner loss increases, the amplitude curve in the frequency characteristic curve is made flat

compared to the conventional technology.

Please amend the specification at Page 8, lines 22-23 as follows:

A diaphragm edge according to the third preferred embodiment of the present invention

will now be ~~decried~~ described.

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Please amend the specification at Page 9, line 34 through Page 10, line 8 as follows:

In the diaphragm edge according to the present invention, the emboss has an arithmetical mean deviation from the mean line of the profile (Ra) between 2.44 μm - 28.70 μm, a maximum height (Ry) between 14.25 μm - 120.00 μm, and a ten point average roughness (Rz) between 7.90 μm - 97.00 μm. For example, FIG. 8 is a magnified sectional view of the entire front surface of the diaphragm edge 31 where the emboss is formed, wherein the emboss has an arithmetical mean deviation from the mean line of the profile (Ra) of about 6.60 μm, a maximum height (Ry) of about 37.00 μm, and a ten point average roughness (Rz) of about 23.70 μm. In FIG. 8, a unit of a solid line scale on a horizontal axis denotes 227.27 μm while a unit of a solid line scale on a vertical axis denotes 11.24 μm.

Please amend the specification at Page 10, lines 9-17 as follows:

The arithmetical mean deviation from the mean line of the profile (Ra), the maximum height (Ry), and the ten point average roughness (Rz) are methods to indicate a texture (a degree of formation of an emboss) of a surface. When a function expressing a section curve showing a section of the diaphragm edge 31 is f(x), the arithmetical mean deviation from the mean line of the profile (Ra) is obtained from an equation that $Ra = \int |f(x)| dx$. The maximum height (Ry) corresponds to the length between the highest peak and the deepest trough on the section curve. ~~The ten point average roughness (Rz) corresponds to the length between the third highest peak and the third deepest trough on the section curve.~~